

ABSTRACT

A nitride semiconductor device includes a GaN substrate having a single-crystal GaN layer at least on its surface and plurality of device-forming layers made of nitride semiconductor. The device-forming layer contacting the GaN substrate has a coefficient of thermal expansion smaller than that of GaN, so that a compressive strain is applied to the device-forming layer. This result in prevention of crack forming in the device-forming layers, and a lifetime characteristics of the nitride semiconductor device is improved.